

CLAIMS

- 1 1. A method for a first file server to provide file service operations normally per-
2 formed by a second file server after the second file server suffers an error condition, the
3 first and second file servers operatively interconnected with a set of clients using a net-
4 work protocol, the network protocol being free of support for moving a transport address
5 from the second file server to the first file server, the method comprising the steps of:
6 detecting, by the first file server, that the second file server has suffered an error
7 condition;
8 asserting ownership, by the first file server, of a set of storage devices normally
9 owned by the second file server;
10 activating, on the first file server, a secondary data access port for receiving con-
11 nections over a network; and
12 processing, by the first file server, file service operations directed to the secondary
13 data access port from the set of failover clients, the failover clients accessing the first file
14 server by computing a network address associated with the first file server from a sym-
15 bolic name generated from the second file server, whereby failover operation is achieved
16 by the client.
- 1 2. The method of claim 1 wherein the step of detecting the error condition further
2 comprises the steps of sending, by the second file server, an error message to the first file
3 server.
- 1 3. The method of claim 1 wherein the step of detecting an error condition further
2 comprises the step of:
3 detecting, by the first file server, a lack of a status signal generated by the second
4 file server.
- 1 4. The method of claim 1 wherein the secondary data access port is a virtual inter-
2 face discriminator.

1 5.) A method for a client to continue to access file service operations after a first file
2 server has suffered an error condition, the method comprising the steps of:
3 computing a failover name;
4 resolving the failover name to a network address; and
5 connecting to a failover file server using the network address and a predetermined
6 alternate data access port.

1 6. The method of claim 5 wherein the step of computing a failover name further
2 comprises the steps of:
3 appending a set text string to a name of the first file server.

1 7. The method of claim 5 wherein the predetermined alternate data access port fur-
2 ther comprises a virtual interface discriminator.

1 8.) A file server for use in a file server cluster, the file server operatively intercon-
2 nected with a set of clients using a network protocol, the network protocol being free of
3 support for moving a transport address from a first file server to a second file server, the
4 file server comprising:
5 a cluster interconnect, the cluster interconnect providing a communications link to
6 a partner file server in the file server cluster;
7 a primary data access port for receiving file service operations from file server
8 clients; and
9 a secondary data access port, the secondary data access port only being active
10 when the file server detects that the partner file server has suffered an error condition,
11 wherein the file server processes file service operations received via the secondary data
12 access port to provide file service operations to clients of the partner file server.

1 9. The file server of claim 8 wherein the primary data access port further comprises
2 a virtual interface discriminator.

1 10. The file server of claim 9 wherein the secondary data access port further com-
2 prises a virtual interface discriminator.

1 11. A file server for use in a file server cluster, the file server operatively intercon-
2 nected with a set of clients using a network protocol, the network protocol being free of
3 support for moving a transport address from a first file server to a second file server, the
4 file server comprising:

5 means for communicating with a partner file server in the file server cluster;
6 means for identifying that the partner file server has suffered an error condition;
7 means asserting ownership of disks normally owned by the partner file server; and
8 means for processing file service operations from clients of the partner file server.

1 12. A computer-readable medium, including program instructions executing on a file
2 server, for providing file service operations normally performed by a failed file server,
3 the program instructions performing the steps of:

4 detecting that the failed file server has suffered an error condition;
5 asserting ownership of a set of storage devices normally owned by the failed file
6 server;

7 activating a secondary data access port for receiving connections over a network;

8 and

9 processing file service operations received by one or more clients over the data
10 access port.

1 13. A computer-readable medium, including program instructions executing one cli-
2 ent, for the client to continue to access file service operations after a first file server has
3 suffered an error condition, the instructions including steps for:

4 computing a failover name;

5 resolving the failover name to a network address; and

6 connecting to a failover file server using the network address and a predetermined
7 alternate data access port.